

Name _____

Math 1

Quiz 9

For all problems, show all work. Do not round unless instructed otherwise. You may use a graphing calculator. Questions labelled with standard 4E also assess either 4A or 4B. Good luck! ☺

1. (4B, 4D) Determine the average rate of change of $y = 2^x$ over the interval $[-4, 0]$.

2. (4B, 4D) Let r be *any* real number with $r < -4$. How will the average rate of change of $y = 2^x$ over the interval $[r, 0]$ compare with the answer to problem 1? Explain your reasoning.

There are more problems on the back! ☺

For the next two questions, refer to the following scenario:

Andy is riding his bike directly towards Ian's house. He starts 12 miles away from Ian's house and goes at a constant speed of 16 miles per hour. Andy will stop riding his bike once he gets to Ian's house.

3. (4E) Write an equation for Andy's distance from Ian's house in terms of the number of hours that Andy has been riding his bike.

4. (4C) Determine a suitable domain for this function. (The domain should also take into account whether the function is discrete or continuous.)

For the next two questions, refer to the following scenario:

Haley wins \$1,250 and deposits it in an account that pays 1.8% interest compounded annually. Haley plans on closing the account after six years, and she will not make any deposits or withdrawals during that time.

5. (4E) Write an equation for Haley's current balance in terms of the number of years that she has had the account.

6. (4C) Determine a suitable domain for this function. (The domain should also take into account whether the function is discrete or continuous.)

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Math 1

Quiz 9

For all problems, show all work. Do not round unless instructed otherwise. You may use a graphing calculator. Questions labelled with standard 4E also assess either 4A or 4B. Good luck! ☺

1. (4B, 4D) Determine the average rate of change of $y = 3^x$ over the interval $[-2, 0]$.

2. (4B, 4D) Let r be *any* real number with $r < -2$. How will the average rate of change of $y = 3^x$ over the interval $[r, 0]$ compare with the answer to problem 1? Explain your reasoning.

There are more problems on the back! ☺

For the next two questions, refer to the following scenario:

Dina is riding her bike directly towards Serenity's house. She starts 12 miles away from Serenity's house and goes at a constant speed of 15 miles per hour. Dina will stop riding her bike once she gets to Serenity's house.

3. (4E) Write an equation for Dina's distance from Serenity's house in terms of the number of hours that Dina has been riding her bike.

4. (4C) Determine a suitable domain for this function. (The domain should also take into account whether the function is discrete or continuous.)

For the next two questions, refer to the following scenario:

Ethan wins \$1,300 and deposits it in an account that pays 1.7% interest compounded annually. Ethan plans on closing the account after six years, and he will not make any deposits or withdrawals during that time.

5. (4E) Write an equation for Ethan's current balance in terms of the number of years that he has had the account.

6. (4C) Determine a suitable domain for this function. (The domain should also take into account whether the function is discrete or continuous.)